



Water Quality Report 2003



April 2004

Fellow Albuquerque Water Utility Customers:

We can be proud that for over 30 years our drinking water has met every state and federal drinking water quality standard. We know the quality of your drinking water is important to you and we take water quality regulations very seriously.

We are pleased to comply with drinking water regulations by bringing you this Water Quality Report for 2003. This report provides our customers with important information about the source of our water supply, details on the quality of water we deliver to our customers, and the drinking water project designed to meet the challenges of the future: a safe and sustainable water supply. We believe the information in this report provides a valuable service to our customers.

I urge you to take a few minutes to review this report. If you have questions or comments, I encourage you to call the Water Quality Information Line at 857-8260. This report and additional information are also available on the web at www.cabq.gov/waterquality.

We welcome your interest in Albuquerque's water supply!

Sincerely,

Martin J. Chavéz
Mayor

Your Water Quality Report

Each year we mail the Water Quality Report to our customers. The Environmental Protection Agency (USEPA) wants to make sure that every consumer knows what is in their drinking water. The content of the report, the language in it, and the format for reporting compliance monitoring results are required by law.

We want our customers to have accurate information about the quality of their drinking water from source to tap. We know



In 2003, 4,700 samples were analyzed for nearly 36,000 results.

this information is complex. We have attempted to include all the information required in a readable format at the lowest cost.

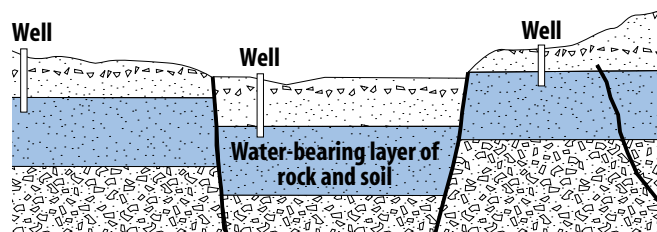
This report, along with additional water quality information, can be found at www.cabq.gov/waterquality. For assistance in interpreting this report, please call the Water Quality Information Line at 857-8260 or use the links on our web page to send us e-mail at waterquality@cabq.gov. If you are hearing impaired, call 857-8206.

Drinking Water: Source to Tap

The Water Source

Ninety-two wells located throughout the Albuquerque area pump water from the Santa Fe Group Aquifer. The aquifer stretches from Cochiti Reservoir on the north to San Acacia on the south and from the Sandia Mountains east of Albuquerque to the hills just west of the Rio Puerco.

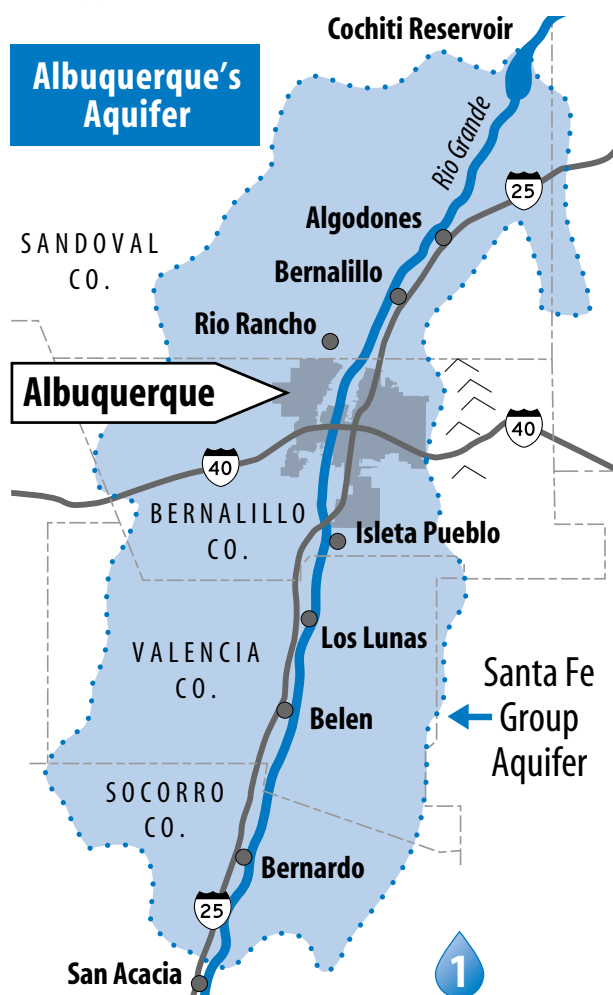
The aquifer is not an underground lake or river. It is like a honey comb broken into pieces. Water quality from a single well is not expected to vary much from year to year. Water quality from wells in different parts of the aquifer can vary significantly.



Fractures and offsets (called faults) in the water-bearing layers of rock and soil beneath Albuquerque can prevent water from moving freely.

Although the Utility is no longer required to collect samples from wells, we continue to collect samples every year from each well to monitor the physical, chemical, and biological characteristics of the wells. For wells near known or suspected soil or ground water contamination sites, the monitoring frequency is increased.

The aquifer providing our drinking water is the blue area shown at left, stretching from Cochiti Reservoir on the north to San Acacia on the south, and from the Sandia Mountains east of Albuquerque to the hills just west of the Rio Puerco.



Source Water Assessment

USEPA requires the New Mexico Environment Department (NMED) to determine how susceptible water sources are to contamination. In cooperation with the Utility, the assessment was completed in 2002. NMED reported that the Utility is well maintained and operated and that sources of drinking water are generally protected from potential sources of contamination. Please be assured that water produced by every well meets all drinking water quality standards.

To determine susceptibility for each well, its hydrogeology and construction were considered. Potential or known sources of contamination within 1000 feet and water quality records were then used to assign a final ranking. The final rankings for Utility wells range from low to high.

Potential sources of contamination noted in the assessment include businesses that use hazardous chemicals such as automotive repair shops, dry cleaners, and paint and hardware stores, car washes, construction sites, gas stations, golf courses, interstate highways and city streets, military facilities, sewer lines and septic tanks, and unlined arroyos, ditches, and drainage canals.

Wells near known contamination sites were ranked highly susceptible. Increased monitoring in some of those wells has revealed low levels of Volatile Organic Contaminants (VOCs). Traces of VOCs have been detected in two wells

near the South Valley Superfund site and in two wells near the Buena Vista and Coal Avenue leaking underground storage tank site and the Yale and Central site. Clean-up of a site at I-25 and Jefferson has eliminated traces of VOCs detected in a nearby well. USEPA and NMED oversee investigation and cleanup of those sites.

To request a copy of the Source Water Assessment for the Albuquerque Water System, System Number 10701, contact NMED Drinking Water Bureau in Santa Fe toll free at 1-(877)-654-8720 or send an e-mail with your name, address, and telephone number and the name and number of the Utility to SWAPP@nmenv.state.nm.us.

The Ground Water Protection Policy and Action Plan

The City of Albuquerque and Bernalillo County work together to find and clean-up contaminated ground water and promote coordinated protection and prudent use of ground water throughout the region.

The NMED Source Water Assessment calls the Ground Water Protection and Action Plan a proactive approach for protecting the system's water source.

The Ground-Water Protection Advisory Board oversees ground water protection activities. Call 768-3634 for information and educational materials.

Special Notice for Immuno-compromised Persons

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline 1-(800)-426-4791.

Gente Con Condiciones Inmunológicas Especiales

Algunas personas pueden ser más vulnerables, a elementos contaminantes en el agua, que la mayoría de la población. Gente con condiciones inmunológicas especiales, como; pacientes de cáncer que reciben tratamientos de quimioterapia, pacientes receptores de órganos transplatados, individuos afectados por VIH/ SIDA, gente de avanzada edad o recién nacidos, pueden ser particularmente más vulnerables a infecciones. Dichos grupos deben buscar recomendaciones específicas, en referencia a la ingestión de agua potable, de sus proveedoras de servicio de salud. Mayor información se encuentra concentrada en un conjunto de normas y pautas, de USEPA/ Center for Disease Control, destinadas a minimizar las posibilidades y efectos de infección causada por Cryptosporidium y otros contaminantes microbianos, y disponibles a través del Safe Drinking Hotline, 1-800-426-4791.

2003 Water Quality Report

Results of Monitoring at Entry Points to the Distribution System

USEPA sets regulations that limit the amount of certain substances in drinking water. USEPA defines where and how often samples for each substance must be collected. The table below shows the results of the most recent water quality testing done at Entry Points to the Distribution System (EPTDS) to comply with USEPA requirements.

Substance	Sample Collection Year	Minimum Detected	Average Detected	Maximum Detected	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal	Source	Health Effects Language
Metals								
Arsenic	2003	2 Parts Per Billion	13 Parts Per Billion	35 Parts Per Billion	10 Parts Per Billion	Zero Parts Per Billion	Erosion of natural volcanic deposits.	Please refer to map below
					Note: These arsenic values are effective January 23, 2006. Until then, the MCL is 50 Parts Per Billion and there is no MCLG.			
Barium	2003	Not Detected	0.1 Parts Per Million	0.2 Parts Per Million	2 Parts Per Million	2 Parts Per Million	Erosion of natural deposits.	Not Applicable
Chromium	2003	Not Detected	2 Parts Per Billion	17 Parts Per Billion	100 Parts Per Billion	100 Parts Per Billion	Erosion of natural deposits.	Not Applicable
Minerals								
Fluoride	2003	0.4 Parts Per Million	0.9 Parts Per Million	1.4 Parts Per Million	4 Parts Per Million	4 Parts Per Million	Erosion of natural deposits and the addition of fluoride. See *Fluoridation below.	Not Applicable
Nutrients								
Nitrate	2003	Not Detected	0.6 Parts Per Million	1.7 Parts Per Million	10 Parts Per Million	10 Parts Per Million	Erosion of natural deposits.	Not Applicable
Organics								
Total Xylenes	2002	Not Detected	Not Detected	0.0008 Parts Per Million	10 Parts Per Million	10 Parts Per Million	Detected in a sample collected at one EPTDS. No xylene was detected in any sample collected from wells supplying that location. Vehicle exhaust fumes are the suspected source.	Not Applicable
Di(2-ethylhexyl)phthalate	2002	Not Detected	Not Detected	2.3 Parts Per Billion	6 Parts Per Billion	Zero Parts Per Billion	A widely used plasticizer. Gloves used in sample collection and laboratory analysis are the suspected source.	Not Applicable
Radionuclides								
Gross Alpha Particle Activity	2003	1.0 picroCuries Per Liter	2.4 picroCuries Per Liter	4.2 picroCuries Per Liter	15 picroCuries Per Liter	Zero picroCuries Per Liter	Erosion of natural deposits.	Not Applicable
Radium 226	2003	Not Detected	0.01 picroCuries Per Liter	0.03 picroCuries Per Liter	5 picroCuries Per Liter	Zero picroCuries Per Liter	Erosion of natural deposits.	Not Applicable

What is an EPTDS?

Water is moved from the wells to storage tanks in large diameter pipelines. The water is treated along the way. Treatment includes:

- **DISINFECTION** with sodium hypochlorite. Generated on-site from table salt and water, the product is like weak household bleach.
- * **FLUORIDATION** to prevent dental cavities. East of the Rio Grande, the Utility adds fluoride. On the West Side of the river, the water contains sufficient fluoride naturally as it is pumped from the ground.

No other treatment is required to meet current drinking water quality standards.

From the valley to the heights, storage tanks are organized in trunks. Pump stations move treated water from one storage tank to another. The result is a mix of treated waters from many wells in each storage tank.

At the **Entry Point to the Distribution System or the EPTDS**, water from a storage tank enters the distribution system to deliver water to individual neighborhoods and customer taps by gravity flow. In some cases, treated water from an individual well enters the distribution system through a separate **EPTDS**.

The water system is made up of 19 distinct distribution zones as shown on the map on this page. Specific **EPTDS(s)** provide water to each distribution zone. Water distributed within each distribution zone is of the same quality.

For information on the quality of water in your distribution zone, visit our web site at www.cabq.gov/waterquality.

Arsenic Occurrence and Health Effects

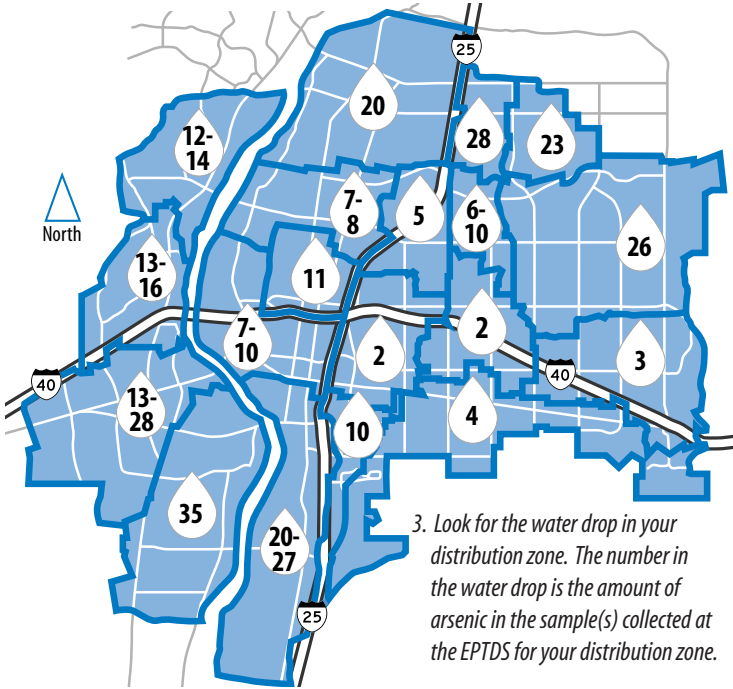
Although all of the drinking water supplied to our customers meets the current 50 parts per billion standard, some of the water does not meet the 10 parts per billion standard that will be effective in 2006. We are required to inform our customers of potential health effects of varying concentrations of arsenic.

The map below shows the results of arsenic monitoring at EPTDS during 2003. These samples were collected to comply with USEPA regulations.

USEPA arsenic health effects language applies as follows:

For water containing greater than 5 PPB of arsenic and up to and including 10 PPB of arsenic: *While your drinking water meets USEPA's standard for arsenic, it does contain low levels of arsenic. USEPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. USEPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.*

For water containing greater than 10 PPB of arsenic, but not greater than 50 PPB of arsenic: *Some people who drink water containing arsenic in excess of the new MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.*



- To use this map:**
1. Find your location on the map.
 2. Determine your distribution zone. The distribution zones are outlined by a dark blue line. Drinking water supplied within a distribution zone is of the same water quality.
 3. Look for the water drop in your distribution zone. The number in the water drop is the amount of arsenic in the sample(s) collected at the EPTDS for your distribution zone.
 4. A single number for arsenic in a water drop indicates there is a single EPTDS for that distribution zone. A range of numbers indicates there are multiple EPTDS to that distribution zone.
 5. Find the appropriate health effects language for the amount of arsenic on your distribution zone.

Meeting USEPA's Arsenic Limit

Arsenic occurs naturally in the earth's crust. When rocks, minerals, and soil erode, they release arsenic into groundwater. Arsenic occurs naturally in varying amounts in groundwater in Albuquerque and throughout New Mexico. The average concentration of arsenic in Albuquerque's drinking water is 13 parts per billion.

After many years of national debate on the health effects of arsenic in drinking water and the accuracy of estimates of costs and benefits, USEPA revised the Maximum Contaminant Level from 50 parts per billion to 10 parts per billion in October of 2001.

All of the water supplied to our customers meets the current 50 parts per billion standard. The Water Utility must comply with the new 10 parts per billion standard in 2006.

Treating groundwater to comply with the new 10 parts per billion standard would result in a 50% rate increase for the average monthly water bill. By using treated water from the new Drinking Water Project, the expected initial cost of arsenic treatment will be reduced from \$150 million to \$30 to \$40 million. Over time, however, the Water Utility will still need to build arsenic removal facilities to meet growing demand.

Water Quality Information

More information about Albuquerque's water quality is available at 857-8260.
TTY: 857-8206.
www.cabq.gov/waterquality
e-mail: waterquality@cabq.gov

El Informe en Español

Este informe se ha imprimido en español. Si desea más información o para una copia en español, sírvase llamar a la Línea de Información de Calidad de Agua, teléfono 857-8260, o visite nuestra "página Web" en www.cabq.gov/waterquality. Si tiene dificultades auditivas, sírvase llamar al teléfono 857-8206. Nuestra "página Web" muestra conexiones a nuestra dirección electronica, (E-mail).

2003 Water Quality Report

Results of Monitoring the Distribution System

USEPA sets regulations that limit the amount of certain substances in drinking water. USEPA defines where and how often samples for each substance must be collected. The table below shows the water quality results of samples collected at customer taps throughout the distribution system in 2003 to comply with EPA requirements.

Substance	Sample Collection Year	Minimum Detected	Average Detected	Maximum Detected	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Source	Health Effects Language
Bacteria								
Total Coliform	2003	Not Detected	Not Detected	1.0% of samples taken in June had detectable coliform bacteria. Not detected in any other samples in 2003.	Must not detect coliform bacteria in more than 5.0% of samples in any month.	0% of samples with detectable coliform bacteria.	Found throughout the environment.	Not Applicable
Disinfection By-Products								
Total Trihalomethanes	2003	0.6 Parts Per Billion	9.3 Parts Per Billion	41 Parts Per Billion	80 Parts Per Billion	Not Applicable	By-product of chlorination.	Some people who drink water containing trihalomethanes in excess of MCL over many years could experience problems with their liver, kidneys, central nervous system, and may have an increased risk of getting cancer.
Haloacetic Acid	2003	Not Detected	1.8 Parts Per Billion	3.9 Parts Per Billion	60 Parts Per Billion	Not Applicable	By-product of chlorination.	Not Applicable
Disinfectant					MRDL	MRDLG		
Chlorine	2003	Not Detected	0.7 Parts Per Million	1.8 Parts Per Million	4 Parts Per Million	4 Parts Per Million	Water additive used to control microbial contamination.	Not Applicable

Important Definitions for Reviewing These Tables

Parts Per Million; Parts Per Billion
Imagine a room, 10 feet wide, 10 feet long, and 10 feet high. Imagine that room filled with one million ice cubes. If one of those ice cubes were blue, it would represent one part per million. If you had 1,000 rooms filled with ice cubes and one of those ice cubes was blue, that blue ice cube would represent 1 part per billion.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Distribution System:
A network of pipes leading from a storage tank to customers’ water

taps. There are 2,500 miles of pipes in the water system.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

picoCuries per liter: A measure of radioactivity.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.



A treatment technician adds table salt in the current treatment cycle – this is part of the disinfection process mentioned on page 2.



Utility technicians repair a water main break. Last year 347 main breaks were repaired.

Water System Emergency Repair
Call: Dispatch
24 hour operation
857-8250

Unusual Activity at Water Utility Facilities?
Call: Central Control
24 hour operation
857-8248

What the USEPA Says About Drinking Water Contaminants

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency’s Safe Drinking Water Hotline 1-(800)-426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-

occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity.

Contaminants in drinking water sources may include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Frequently Asked Questions About Water Quality



What About Lead in My Water?
Lead and copper typically get into drinking water as a result of corrosion of plumbing systems (pipes, faucets, and lead solder) in customer’s homes. Over the past 13 years, select customers have collected samples for lead and copper testing from taps in their homes. Even in worst case scenario homes (homes built between 1982–1987) tap water was well below USEPA’s Action Levels for lead and copper. If your are concerned about lead and copper in water in your home, you may want to have your water tested. For a fee, private laboratories will test your tap water. Be sure to ask if the lab is certified to perform lead and copper testing. For more information on lead and copper results for 2001, visit our web page at www.cabq.gov/waterquality.

What is a Cross-Connection?
Contaminants from cross-connected plumbing can backflow into drinking water supplies. A backflow is just what it sounds like: water is flowing in the opposite direction from its normal flow. You can install simple, inexpensive devices on water taps to prevent backflow. For more information call the Cross Connection Office at 857-8210 or e-mail backflow@cabq.gov.



City of Albuquerque, NM
P.O. Box 1293
Albuquerque NM 87103

Albuquerque-Bernalillo County Water Utility Authority

- Chairman Alan Armijo, County Commissioner
- Vice-Chairman Michael Cadigan, City Councilor
- City of Albuquerque Members Martin Chávez, Mayor
Eric Griego, City Councilor
Debbie O'Malley, City Councilor
- Bernalillo County Members Steve Gallegos, County Commissioner
Tom Rutherford, County Commissioner
- Ex Officio Member Pablo Rael, Trustee
Village of Los Ranchos

PRSRT STD
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NM
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Information about your drinking water

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT

2003 Water Quality Report

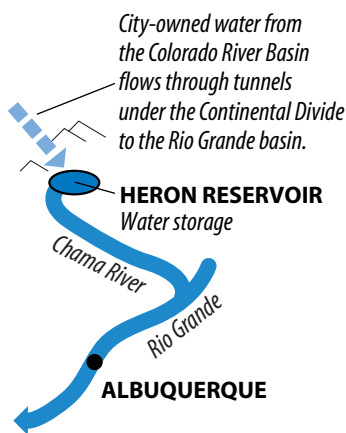
Meeting the Challenges of the Future

The Drinking Water Project

Within the next few years, you will turn on your tap and the water will flow out as usual; however, it will no longer be groundwater. It will be surface water that has been purified to meet all drinking water standards.

Since 1963, City water customers have invested more than \$50 million in the San Juan-Chama project. The project consists of diversion structures in the Colorado River Basin in southern Colorado that capture part of New Mexico's share of the Colorado River.

The water is channeled through 26 miles of tunnels under the Continental Divide into the Rio Grande Basin to be stored at Heron Reservoir. The City of Albuquerque owns 48,200 acre-feet per year of this water. This water must be put to beneficial use in New Mexico under the terms of interstate compacts and federal law.



Background

In 1997, the City Council adopted the Water Resources Management Strategy to transition from sole reliance on the aquifer to renewable supplies, primarily our San Juan-Chama water. As a part of the strategy, the Drinking Water project will use our surface water from the San Juan-Chama project as a drinking water supply. Seven dedicated water rate increases have been approved by the City Council for design and construction of the new facilities. The fund is entitled "Sustainable Water Fund" on your water bill.

The Drinking Water Project includes:

1. Construction of a new water diversion facility on the Rio Grande
2. A state-of-the-art water purification plant
3. Large distribution pipelines

Schematics of these projects are shown below, or visit the website.

www.cabq.gov/waterresources

Albuquerque-Bernalillo County Water Utility Authority

The New Mexico Legislature and Governor Bill Richardson established the Albuquerque-Bernalillo County Water Utility Authority in June of 2003. The Water Utility Authority is a joint agency of the City of Albuquerque and Bernalillo County established to administer the water and wastewater utility.

Members of the Water Authority Board:

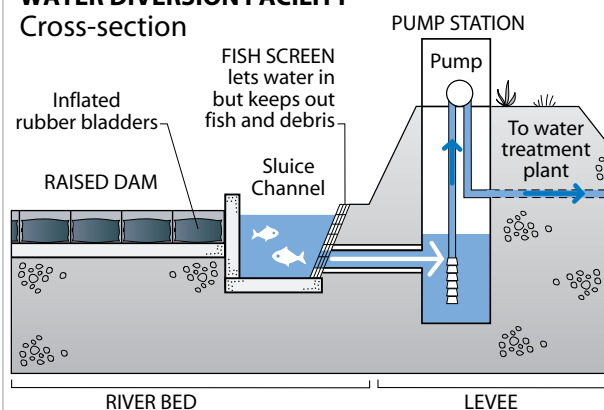
- Chairman Alan Armijo, County Commissioner
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- Bernalillo County Members Steve Gallegos, County Commissioner
Tom Rutherford, County Commissioner
- Ex Officio Member Pablo Rael, Trustee
Village of Los Ranchos

Monthly board meetings are held in the Joint Chambers of the Albuquerque/Bernalillo County Government Center. Meeting schedules and agenda are available at www.cabq.gov/wua.

1. Construction of a new Water Diversion Facility on the Rio Grande

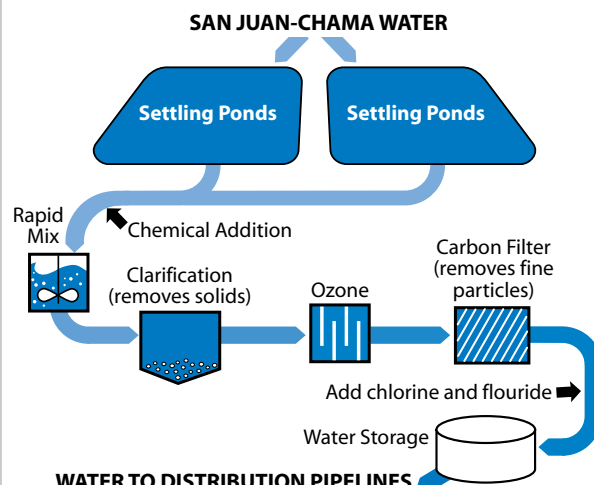
The City has committed to preserve and protect the Rio Grande and the Bosque. Environmental enhancements for the Drinking Water Project include fish passage and screening structures, Bosque improvements, river restoration and creation of habitat for the Rio Grande Silvery Minnow. The Utility leads an initiative, the Endangered Species Act Workgroup, to recover endangered species in the river. Silvery Minnow habitat projects in the Rio Grande are also being developed to supplement the existing captive rearing and breeding facility at the Albuquerque Biopark and Zoo.

WATER DIVERSION FACILITY Cross-section



2. A state-of-the-art Water Purification Plant

The water purification plant will use a combination of gravity settling, chemical treatment and filtration technologies. The final design for the water purification plant will be completed in June 2004. Construction will begin soon thereafter.

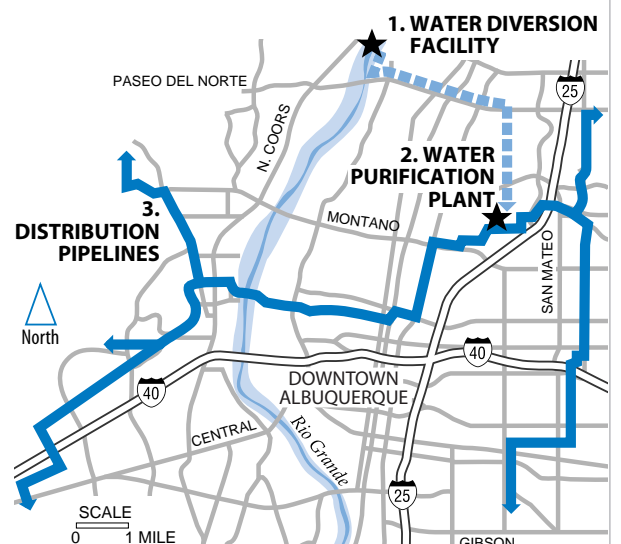


Regulatory compliance monitoring requirements for drinking water from purified surface water are more stringent than for ground water alone. The plant will be designed to produce water of higher quality than current and anticipated drinking water quality standards.

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3. Large Distribution Pipelines

56 miles of large diameter pipeline will be installed to move purified water from the plant to the existing distribution system.



Public Meetings

As the Drinking Water Project progresses, the City may host public meetings to provide additional opportunities for input and discussion. For current information, call the Water Resources Information Line at 768-2562.